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Express Mail Label No.: EV 138526292 US

Date of Deposit: January 21, 2003

Attorney Docket No. 21402-222 (Cura-522)



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Shimkets *et al.*

SERIAL NUMBER: 10/028,248

EXAMINER: Not yet assigned

FILING DATE: December 19, 2001

ART UNIT 1643

FOR: NOVEL NUCLEIC ACIDS AND POLYPEPTIDES AND METHODS OF USE THEREOF

BOX SEQUENCE

U.S. Patent and Trademark Office

P.O. Box 2327

Arlington, VA 22203

TRANSMITTAL LETTER

The following are enclosed herewith for filing in the above-identified application:

1. Response to Notice to Comply with Sequence Disclosure Requirements (2 pgs.);
2. Copy of the Notice to Comply with Sequence Disclosure Requirements (1 pg.)
and the Raw Sequence Listing Error Report (12 pgs.);
3. Substitute Paper Copy of the "Sequence Listing" (290 pgs.);
4. Substitute Computer Readable Form Copy of the "Sequence Listing" (1 diskette);
5. Statement in Support of Computer Readable Form Submission Under 37 C.F.R.
§ 1.821(f) (1 pg.);
6. Supplemental Preliminary Amendment (2 pgs.); and
7. Return postcard.

If the enclosed papers are considered incomplete, the Mail Room and/or the Application Branch is respectfully requested to contact the undersigned at the number below.



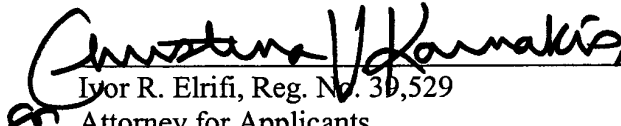
30623

PATENT TRADEMARK OFFICE

Applicants believe that no fees are due with this filing. However, the Commissioner is hereby authorized to charge any fees that may be due, or credit any overpayment of same, to Deposit Account No. 50-0311, Reference No. 21402-222. A duplicate copy of this transmittal letter is enclosed.

Respectfully submitted,

Dated: January 21, 2003

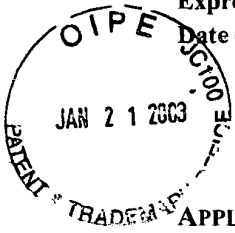
 Christopher J. Karnakis, Reg. No. 45,899
Ivor R. Elrifi, Reg. No. 39,529
Attorney for Applicants
c/o MINTZ, LEVIN
One Financial Center
Boston, Massachusetts 02111
Tel: (617) 542-6000
Fax: (617) 542-2241

TRA 1754522v1

Express Mail Label No.: EV 158526292 US

Date of Deposit: January 21, 2003

Attorney Docket No. 21402-222 (Cura-522)



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Shimkets *et al.*

SERIAL NUMBER: 10/028,248

EXAMINER: Not yet assigned

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FOR: NOVEL NUCLEIC ACIDS AND POLYPEPTIDES AND METHODS OF USE THEREOF

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P.O. Box 2327

Arlington, VA 22203

**RESPONSE TO NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT
APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCES AND/OR AMINO ACID
SEQUENCES DISCLOSURES**

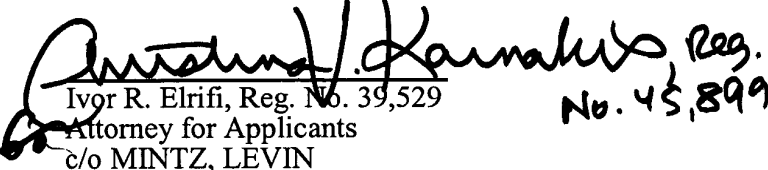
In response to the Notice, mailed December 4, 2002, in the above-referenced application,
Applicants submit herewith the following:

- a copy of the Notice to Comply with Sequence Disclosure Requirements (1 pg.),
and the Raw Sequence Listing Error Report (12 pgs.);
- a substitute paper copy of the Sequence Listing (290 pgs.);
- a substitute computer readable form (CRF) copy of the Sequence Listing (1 disk);
- a statement in support of the CRF, in compliance with 37 C.F.R. §§ 1.821-1.825
(1 pg.); and
- a Supplemental Preliminary Amendment (2 pgs.).

The present Response is due on or before February 4, 2003. Applicants believe that no fees are due with this filing. However, the Commissioner is hereby authorized to charge any fees that may be due, or credit any overpayment of same, to Deposit Account No. 50-0311, Reference No. 21402-222 (Cura-522)

Respectfully submitted,

Dated: January 21, 2003


Ivor R. Elrifi, Reg. No. 39,529
Attorney for Applicants
c/o MINTZ, LEVIN
One Financial Center
Boston, Massachusetts 02111
Tel: (617) 542-6000
Fax: (617) 542-2241
Customer No. 30623
No. 45,899

TRA 1754514v1



Commissioner for Patents
Washington, DC 20231
www.uspto.gov

APPLICATION NUMBER	FILING/RECEIPT DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
10/028,248	12/19/2001	Richard A. Shimkets	21402-222 (Cura-522)

CONFIRMATION NO. 2131

FORMALITIES LETTER



OC00000009194345

Ivor R. Elrifi
MINTZ, LEVIN, COHN, FERRIS,
GLOVSKY and POPEO, P.C.
One Financial Center
Boston, MA 02111

Date Mailed: 12/04/2002

**NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS
CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE
DISCLOSURES**

Filing Date Granted

Applicant is given **TWO MONTHS FROM THE DATE OF THIS NOTICE** within which to file the items indicated below to avoid abandonment. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

- A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing." Applicant must provide a substitute computer readable form (CRF) copy of the "Sequence Listing" and a statement that the content of the sequence listing information recorded in computer readable form is identical to the written (on paper or compact disc) sequence listing and, where applicable, includes no new matter, as required by 37 CFR 1.821(e), 1.821(f), 1.821(g), 1.825(b), or 1.825(d).

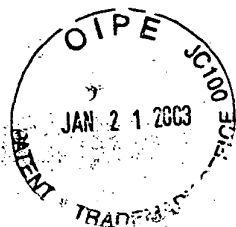
For questions regarding compliance to these requirements, please contact:

- For Rules Interpretation, call (703) 308-4216
- To Purchase PatentIn Software, call (703) 306-2600
- For PatentIn Software Program Help, call (703) 306-4119 or e-mail at patin21help@uspto.gov or patin3help@uspto.gov

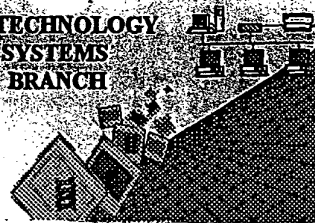
*A copy of this notice **MUST** be returned with the reply.*

Customer Service Center
Initial Patent Examination Division (703) 308-1202

PART 2 - COPY TO BE RETURNED WITH RESPONSE



BIOTECHNOLOGY
SYSTEMS
BRANCH



0590
1120

RAW SEQUENCE LISTING **ERROR REPORT**

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 101028,248
Source: OIPTE
Date Processed by STIC: 11/20/02

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE **CHECKER**
VERSION 3.1 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND
TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: U.S. Patent and Trademark Office, Box Sequence, P.O. Box 2327, Arlington, VA 22202
3. Hand Carry directly to:
U.S. Patent and Trademark Office, Technology Center 1600, Reception Area, 7th Floor, Examiner Name, Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202
Or
U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202
4. Federal Express, United Parcel Service, or other delivery service to: U.S. Patent and Trademark Office, Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202

Revised 01/29/2002



Does Not Comply
Corrected Note Needed

OIPE

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/028,248

DATE: 11/20/2002

TIME: 11:31:09

*Explanation of
errors on p. 10*

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10  Gangolli, Esha
11  Miller, Charles
12  Boldog, Ferenc
13  Li, Li
14  Taupier Jr, Raymond J
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28 <120> TITLE OF INVENTION: Novel Nucleic Acids and Polypeptides and Methods of Use
29   Thereof
31 <130> FILE REFERENCE: 21402-222
33 <140> CURRENT APPLICATION NUMBER: 10/028248
C--> 34 <141> CURRENT FILING DATE: 2002-10-31
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51 <150> PRIOR APPLICATION NUMBER: 60/311266
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RAW SEQUENCE LISTING

DATE: 11/20/2002

PATENT APPLICATION: US/10/028,248

TIME: 11:31:09

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PATENT APPLICATION: US/10/028,248

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PATENT APPLICATION: US/10/028,248

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/028,248

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RAW SEQUENCE LISTING

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18005 cagctcgagg ccgtgcattt ctagaacacc tgactgacct gtccatccgc ggcacctct 2280
18006 ttgtgccaca gaacagtggg ctgggggaga atgagacctt gctctggcgg gacatcgagc 2340
18007 accacctcgc caatgtcagc atgtttttct acaatgacct tgtcaatggc accacctgc 2400
18008 aaaccagggt ggggaagcaag ctgctcatca ctgccagcca ggaccactc caaccgacgg 2460
18009 agaccaggtt tgttgatgga agagccattc tcagtgga catctttgcc tccaatggga 2520
18010 tcattcatgt catttccagg ctttaaaag caccctctgc cccgtgacc ttgaccaca 2580
18011 ctggcttggg agcagggatc ttctttgcc tcatcctggt gactggggct gttgccttgg 2640

```

RAW SEQUENCE LISTING

DATE: 11/20/2002

PATENT APPLICATION: US/10/028,248

TIME: 11:31:11

Input Set : A:\Cura2221.app

Output Set: N:\CRF4\11192002\J028248.raw

```

18012 ctgcttactc ctactttcgg ataaaccgga gaacaatcgg cttccagcat tttgagtcgg 2700
18013 aagaggacat taatgttgca gctcttggca agcagcagcc tgagaatatc tcgaaccct 2760
18014 tgtatgagag cacaacctca gctccccag aaccttccta cgacccttc acggactctg 2820
18015 aagaacggca gcttgagggc aatgaccct tgaggacact gtgagggcct ggacgggaga 2880
18016 tgccagccat cactcactgc cacctgggcc atcaactgtg aattctcagc accagttgcc 2940
18017 ttttaggaac gtaaagtcct ttaagcactc agaagccata cctcatctct ctggctgac 3000
18018 tgggggttgt ttctgtgggt gagagatgtg ttgctgtgcc caccagtac agcttcctcc 3060
18019 tctgaccctt tggtcttct tctttgtac tcttcagctg gcacctgctc cattctgccc 3120
E--> 18020 tacatgatgg gtaactgtga tctttcttcc ctgttagatt gtaagcctcc ntctttgtat 3180
18021 ccagccct agccagtgct ctgacacagg aactgtgcac aataaagggt tatggaacag 3240
18022 aaaaaaaaaa aaaaaaaaaa 3260

```

VARIABLE LOCATION SUMMARY

DATE: 11/20/2002

PATENT APPLICATION: US/10/028,248

TIME: 11:31:12

Input Set : A:\Cura2221.app

Output Set: N:\CRF4\11192002\J028248.raw

Use of n's or Xaa's (NEW RULES):

Use of n's and/or Xaa's have been detected in the Sequence Listing.

Use of <220> to <223> is MANDATORY if n's or Xaa's are present.

in <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.

Seq#:1; N Pos. 163,164,165,166,167,168,1279,1280,1281,1282,1283,1284

Seq#:2; Xaa Pos. 55,56,427,428

Seq#:3; N Pos. 1311,1312,1313,1314,1315,1316

Seq#:4; Xaa Pos. 371,372

Seq#:210; N Pos. 3171

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/028,248

DATE: 11/20/2002

TIME: 11:31:12

Input Set : A:\Cura2221.app

Output Set: N:\CRF4\11192002\J028248.raw

L:34 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:66 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:1
M:340 Repeated in SeqNo=1
L:225 M:258 W: Mandatory Feature missing, <221> Tag not found for SEQ ID#:2
L:225 M:258 W: Mandatory Feature missing, <222> Tag not found for SEQ ID#:2
L:225 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:48
L:294 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:416
L:748 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:3
L:949 M:258 W: Mandatory Feature missing, <221> Tag not found for SEQ ID#:4
L:949 M:258 W: Mandatory Feature missing, <222> Tag not found for SEQ ID#:4
L:949 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:368
L:18020 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:210